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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,295	03/17/2004	Pierluigi Marrani	71363	3606

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EXAMINER

VANATTA, AMY B

ART UNIT PAPER NUMBER

3765

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,295

Applicant(s)

MARRANI ET AL.

Examiner

Amy B. Vanatta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2005.
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
 4a) Of the above claim(s) 18 is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-17 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.
 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) ☐ Notice of Informal Patent Application (PTO-152)
 6) ☐ Other: _____.

DETAILED ACTION

Election/Restriction

1. Applicant's election with traverse of Group II in the reply filed on 4/20/05 is acknowledged. The traversal is on the ground(s) that in view of the amendment of the claims on 4/20/05, the apparatus and process claims should be examined together since the process can only be practiced with the machine of claims 10-17. Applicant's arguments are persuasive and the process claims of Group I will be examined with the apparatus claims of Group II. Thus, claims 1-17 are examined herein, and claim 18 is withdrawn without traverse. The requirement as to Groups I/II and Group III is still deemed proper and is therefore made FINAL.

Specification

2. The disclosure is objected to because of the following informalities:

The specification contains an error on page 4, lines 23-29, in which the first cylinder is referred to as "55" and the second cylinder as "56". These numerals appear to be reversed, since Fig. 1 shows the label "56" for the first cylinder and the label "55" for the second cylinder.

The specification contains a typographical error on page 2, line 8 ("and old").

Appropriate correction is required.

Claim Rejections - 35 USC § 112

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3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2, 4-9, and 11-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is indefinite in reciting "throughout its development". It is unclear to what "its" refers, and therefore, it is unclear what development is being referred to.

Claim 4 is rendered indefinite by the recitation of the thread being unwound from a bobbin "through a motor means". It is unclear how a thread can travel through a motor. It appears that the motor means drives the pull unit, but the thread does not actually travel through the motor. More precise and clear language should be used in reciting the motor means.

Claims 6-9 are indefinite in reciting that the "abrasion is operated". It is unclear in what manner the abrasion is "operated" since the abrasion is an effect on the yarn or a step performed.

Claim 6 recites "the orientation and/or distance values" without antecedent basis and such recitations are indefinite since it is unclear what orientation or distance values are being referred to.

Claim 7 is indefinite in reciting "which have different abrasive capacity". It is unclear from what the capacities differ.

Claim 8 is indefinite in reciting "at times randomly differentiated". It is unclear what is meant by this limitation. It is unclear exactly what is "randomly differentiated". Also, it is unclear from what the differentiation occurs.

Claim 9 is indefinite in reciting "rotating about their own axes" since this recitation implies plural structures, however only a single abrasive means having a cylindrical shape was previously set forth.

Claim 11 is indefinite in reciting "it comprises" since it is unclear to what "it" refers.

Claims 12 and 13 are confusing in reciting that the abrasive means "consist of one or more brushes", since "consists of" is closed language, while "one or more" includes just one or a plurality of brushes. This alternative should be more clearly recited.

Claim 13 recites "the bristles" without antecedent basis. Claim 13 also recites "the longitudinal axis" without antecedent basis and is therefore confusing, since a brush does not necessarily have a longitudinal axis and such a feature should be clearly set forth. Claim 13 is indefinite in reciting "on more staves" since other staves were not previously set forth.

Claim 14 recites "the bristles" without antecedent basis and thus is confusing.

Claim 16 is confusing in reciting that the abrasive means "consist of one or more cylinders", since "consists of" is closed language, while "one or more" includes just one or a plurality of cylinders. This alternative should be more clearly recited.

Claim 17 recites "the orientation and/or distance values" without antecedent basis and such recitations are indefinite since it is unclear what orientation or distance values are being referred to.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 6-8, 10, 12, 13, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hunter (US 2,278,879).

Hunter discloses a process for the mechanical treatment of thread including the steps of providing an apparatus including two supports (see 74,76 in embodiment of Fig. 2) to sustain the thread by defining a suspended length and an abrasive device (abrading wheel 78) disposed and acting "in correspondence of" the suspended length of thread. Hunter discloses a step of using the apparatus for the mechanical transformation of the thread for abrading the thread when it is supported in the air between the two supports 74,76 as in claim 1. The thread 33 is continuously fed between the supports while being abraded, as in claim 2. The abrasion is performed by moving abrasive means (see wheel 78) whose position relative to the thread varies with respect to orientation due to its rotation (page 2, col. 2, lines 1-18), as in claim 6. Regarding claims 7-8, the abrasive means (wheel 78) moves and is positioned close to

the thread. The abrasive means (wheel 78) has greater abrasive capacity than the downstream brushes (92,94), and thus the wheel 78 has "different abrasive capacity" from that of the brushes; thus, the limitations of claim 7 are met to the extent understood. The wheel rotates and thus the contact of the abrasive element 82 with the yarn varies, thus the abrasion is "randomly differentiated" to the extent this limitation is understood as recited in claim 8.

Regarding the apparatus of claim 10, Hunter discloses an apparatus including means (74,76) able to sustain the thread by defining a suspended length, and abrasive means (78) disposed and acting in correspondence of the suspended length.

Alternatively, Hunter discloses means 80,88 which define a suspended length, with brushes 92,94 therebetween. These brushes rub and brush the thread and thus form abrasive means to the extent claimed in claims 10 and 12. The embodiment of Fig. 10 shows these brushes as positioned on spaced supports which form staves to the extent recited in claim 13, the staves being parallel to the longitudinal axis of the brush pads. The embodiment of Fig. 11 shows the brushes mounted on chains, with the bristles on spaced supports which form staves to as in claim 13, the staves being parallel to the longitudinal axis of the brush as shown in Fig. 11. In the embodiment of Fig. 2, the abrasive means comprises a cylinder 78 coated with abrasive elements 82. Hunter teaches that the abrasive elements 82 are sand paper (page 2, col. 2, line 9), which is emery paper as in claim 16. In the embodiment of Fig. 2, the abrasive means 82 are disposed on supports (wheel 78 and shaft 80). The positions of the abrasive means

and wheel relative to the thread vary with respect to orientation, since the wheel rotates, as in claim 17.

7. Claims 1, 2, 3, 6-8, 10 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Tlamicha (US 3,140,526).

Tlamicha discloses a process for the mechanical treatment of thread including the steps of providing an apparatus including two supports (7 and 3; Figs. 1 and 11) to sustain the thread by defining a suspended length and an abrasive device (2) disposed and acting "in correspondence of" the suspended length of thread. Tlamicha discloses a step of using the apparatus for the mechanical transformation of the thread for abrading the thread when it is supported in the air between the two supports 3,7 as in claim 1. The thread is continuously fed between the supports while being abraded, as in claim 2. Regarding claim 3, the method of Tlamicha includes a step of using two cylinders for supporting the thread; see cylinder 5 which supports the thread at the upstream end and cylinder 3 which supports the threads just downstream of the first contact with the abrading wheel (2). Cylinder 3 is slotted (see Fig. 2) as in claim 3.

The abrasion is performed by moving abrasive means (see wheel 2). The angle at which the thread contacts the abrasive means is varied by adjusting the position of support 7 or support 3 (col. 4, lines 5-19 and 35-37). In this manner, the position of the moving abrasive means relative to the thread is made to vary in relation to the orientation or distance values, as in claim 6. The abrasive means shown in Figs. 3-8 have "different abrasive capacity" as in claim 7. The abrasion operation is varied by

adjusting the position of support 7 or 3, and this varies the abrasion of the thread by wheel 2. The adjustment can clearly be with purpose or random, and some abrasive effects would inherently be random to some extent due to the nature of the abrasive particles, thus meeting the limitation of claim 8.

Regarding the apparatus of claim 10, Tlamicha discloses an apparatus including means (3,7) able to sustain the thread by defining a suspended length, and abrasive means (2) disposed and acting in correspondence of the suspended length. The angle at which the thread contacts the abrasive means (2) is varied by adjusting the position of support 7 or support 3 (col. 4, lines 5-19 and 35-37). In this manner, the position of the moving abrasive means relative to the thread is made to vary in relation to the orientation or distance values, as in claim 17.

8. Claims 1, 2, 6-8, 9, 10, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Horvath (US 3,831,360).

Horvath discloses a process for the mechanical treatment of thread including the steps of providing an apparatus including two supports (5; see embodiment of Fig. 5) to sustain the thread by defining a suspended length and an abrasive device (6) disposed and acting "in correspondence of" the suspended length of thread (see Fig. 5). Horvath discloses a step of using the apparatus for the mechanical transformation of the thread for abrading the thread when it is supported in the air between the two supports 5 shown in Fig. 5, as in claim 1. The thread is continuously fed between the supports while being abraded, as in claim 2. The abrasion is performed by moving abrasive

means close to the thread (see disc 6). The angle at which the thread contacts the abrasive means is varied by adjusting the angle of the disc 6 with respect to the direction of thread movement (col. 2, lines 41-46). In this manner, the position of the moving abrasive means relative to the thread is made to vary in relation to the orientation or distance values, as in claim 6. Horvath discloses in col. 2, lines 38-41 that abrasive means having different abrasive capacity may be used, as in claim 7. The adjustment or selection of abrasive means can clearly be with purpose or random, and some abrasive effects would inherently be random to some extent due to the nature of the abrasive particles, thus meeting the limitation of claim 8. Regarding claim 9, the abrasive means has a cylindrical shape (see 6 in Fig. 5) which rotates about an axis. The abrasive means 6 rotates at a surface speed which is higher than that for feeding the thread 11 (col. 2, lines 31-34) as in claim 9.

Regarding the apparatus of claim 10, Horvath discloses an apparatus including means (5) able to sustain the thread by defining a suspended length (see Fig. 5), and abrasive means (6) disposed and acting in correspondence of the suspended length. The abrasive means are disposed on supports whose positions are made to vary (col. 2, lines 34-46) in relation to orientation or distance values, as in claim 17.

9. Claims 10, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Bertoldo (US 5,392,499).

Bertoldo discloses an apparatus for mechanical transformation of textiles including means (rollers 21) able to sustain the textile by defining a suspended length

and abrasive means (grinder roller 15) disposed and acting in "correspondence of" the suspended length. Bertoldo discloses the use of the apparatus to treat fabrics; threads which make up the fabric are inherently treated while the fabric is being treated by the apparatus. Moreover, the recitation of the use of the claimed apparatus for the mechanical transformation of a thread amounts to the intended use of the apparatus, and it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). The apparatus of Bertoldo is capable of being used to treat thread. Regarding claim 16, the abrasive means (grinder roller 15) of Bertoldo comprises a cylinder coated with diamond (col. 2, lines 30-34). Regarding claim 17, the abrasive means comprises diamond material which is support on staves (16) on roller 15. The roller 15 can be made to rotate in both the clockwise direction and the counter clockwise direction. As the roller rotates, the abrasive particles on the staves come into and out of contact with the textile. Due to this variable contact and the variable nature of the rotating direction, the positions relative to the textile are varied relative to orientation as in claim 17.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertoldo (US 5,392,499) in view of Dischler et al (US 6,269,525).

Bertoldo discloses an apparatus as claimed, however the abrasive means comprise abrasive particles rather than brushes. Brushes with abrasive bristles are conventional in the art of abrading, however, as taught by Dischler et al. Dischler et al disclose that grit particles and brush rolls are known in the art for their use in abrading textiles.

Dischler disclose that prior art devices have comprised brush rolls with grit particles embedded in soft nylon bristles (col. 2, lines 45-49). One having routine skill in the art would recognize that brushes comprising abrasive nylon bristles could be substituted for the abrasive diamond particles of Bertoldo in order to provide different abrasive effects, and for use on finer or more delicate fabric. Such a modification of Bertoldo would result in the bristles being positioned on the staves 16 in place of the diamond grit, thus meeting the limitations of claims 12-15. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide brushes having abrasive nylon bristles in place of the abrasive diamond grit on the staves of the roller (15) of Bertoldo, since such brushes are conventional in the art of abrading textiles as taught by Dischler et al and their use in the apparatus of Bertoldo would permit treatment of more delicate fabrics or would permit the production of different end results in the mechanical treatment of the fabric.

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12. Claims 4, 5, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horvath (US 3,831,360) in view of Lukhard et al (US 5,110,517).

Horvath discloses a method and apparatus as claimed, including a step of unwinding the thread from a bobbin (1) by means of a pull unit (3,3'). Horvath does not disclose a step of controlling the motor of the pull unit or bobbin shaft on the basis of detected tension values which are detected by tension sensors. Lukhard discloses a thread processing unit including tension sensors 22,22' which detected a tension value and are used to regulate the speed of the thread through the processing device based on these tension values. The sensors 22,22' send a signal to a control device (24,72, 79) which then controls the various motors (M) which control the speed of the pull rollers and feed modules. One having routine skill in the art would recognize that it would be advantageous to provide tension sensors in the method and apparatus of Horvath in order to detect a tension value and to control the speed of the thread based on these values. Although Horvath does not specifically disclose motors which drive the rolls 3,3' or the shaft of the bobbin, as in claims 4-5 and 11, motors are conventionally used for driving rollers and other thread supports, as shown by Lukhard et al. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide first and second motor means for driving the bobbin and rollers 3,3' in the method and apparatus of Horvath since motors are commonly used for driving rollers and other thread supports in thread processing devices, as shown by Lukhard, since motors are readily available, economical, and easily controlled and adjusted. It would have been obvious to one having ordinary skill in the art at the time the invention was

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made to provide tension sensors and control means which drive the motors in response to the detected tension in the method and apparatus of Horvath in order to provide optimally controlled conditions for the thread processing, as taught by Lukhard, and so as to feed the thread at a speed which results in the desired tension level, as is conventional in the art.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy B. Vanatta whose telephone number is 571-272-4995. The examiner can normally be reached on Monday through Thursday.

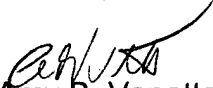
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on 571-272-4983. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Amy B. Vanatta
Primary Examiner
Art Unit 3765